

## INFRARED PHOTODETECTOR

### ABSTRACT OF THE DISCLOSURE

An infrared photodetector formed of a MOS tunneling diode is disclosed. The infrared photodetector comprises a conducting layer, a semiconductor layer comprising at least one layer of quantum structure for confining a carrier in a barrier, an insulating layer formed between the conducting layer and the semiconductor layer, and a voltage source connected to the conducting layer and the semiconductor layer for providing a bias voltage to generate a quantum tunneling effect, such that the carrier penetrates through the insulating layer to form a current, wherein when irradiated by an infrared, the carrier in the barrier absorbs the energy of the infrared to jump out of the barrier and is collected by an electrode to form a photocurrent.